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MÉMOIRES

PRÉSENTÉS

A L'INSTITUT D'ÉGYPTE

ET PUBLIÉS SOUS LES AUSPICES

DE

SA MAJESTÉ FOUAD I^{ER}, ROI D'ÉGYPTE

TOME TREIZIÈME

A BIBLIOGRAPHY OF WORKS
RELATING TO MUMMIFICATION IN EGYPT
WITH EXCERPTS, EPITOMES, CRITICAL
AND BIOGRAPHICAL NOTES
BY WARREN R. DAWSON, F. R. S. E.,
FELLOW OF THE ROYAL SOCIETY OF MEDICINE

LE CAIRE
IMPRIMERIE DE L'INSTITUT FRANÇAIS
D'ARCHÉOLOGIE ORIENTALE

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THOMAS JOSEPH PETTIGREW, F.R.S., F.S.A.,

Surgeon and Antiquary, 1791-1865,
whose «History of Egyptian Mummies», published in 1834 was
the first scientific monograph exclusively devoted to the subject of Mummification.

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in the *Wellcome Historical Medical Museum*, London.

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PREFATORY NOTE.

As a necessary preliminary to an intensive study of the technique of mummification in ancient Egypt, I have made considerable research into the literature of the subject. It is curious that the number of works of real value should be relatively so small for a subject of such cardinal importance in the study of the mythology and funereal archæology of the Egyptians. Of the countless mummies that have been discovered in Egypt during the last two hundred years, quite a small number has been scientifically examined, and of these, but few reliable accounts have been written. Mummies have been treated generally as mere curios, and the older writers usually devote more space to a description of their cases and decorations and to speculations on the meaning of the inscriptions, than to the bodies themselves. Moreover, until

Champollion had made the mute hieroglyphs speak, little or no archaeological evidence as to age and provenance was available. Nevertheless, amongst the works of the older writers, many valuable observations are to be found, and I have included in the following list all that were available to me.

The list of works here presented makes no claim to be complete; indeed, it is probably far from exhaustive. I have endeavoured to keep it within workable limits *by rigidly excluding*:

(a) All works which I have not personally examined. The danger of accepting references or statements at second hand is too well known to investigators to need any emphasis here.

(b) All works which deal only with coffins, amulets, decorations, etc. of mummies, and which do not mention the technique of embalming.

(c) All works which are mainly or exclusively concerned with the mythological or ritual aspects of the subject, i. e. the burial ceremonies, etc.

(d) All works dealing with mummification in countries other than Egypt or Nubia, except when the technique of such other countries is discussed directly in its relationship with that of Egypt.

(e) All works which deal solely with Mummy as a drug.

By these exclusions the number of works enumerated in the list is reduced to 160 entries. Although in working out any subject bibliographical indications, however brief, are always helpful, I have sought to render my list more valuable by appending explanatory or critical notes, epitomes and excerpts, and more inviting by adding biographical notes on some of the more interesting of the older writers.

The works here enumerated are of varying length and value. In the notes I have generally devoted the most space to those that are most inaccessible, most curious and most valuable. Of the modern and easily obtained works little has been said; where no note is appended, the scope is either sufficiently indicated by the title, or the contents call for no special remark.

The labour and time expended in this task has been very considerable, especially as it is solely the product of not too abundant leisure hours. Of some of the works cited, I have copies of my own, but for the greater number

I have availed myself of the resources of various libraries⁽¹⁾. My object in publishing this bibliography is to place before students the principal literary materials for the study of mummification, and thereby to save them the labour of working over the same ground afresh. This bibliography is concerned only with human mummies, and does not include works on mummified animals.

⁽¹⁾ I have to express my gratitude for facilities courteously granted to me by the Librarians of The Royal Society, The Society of Antiquaries, The Royal College of Surgeons, The Royal Society of Medicine, The Linnean Society and The Zoological Society. This privilege has been especially appreciated in the case of those Societies of which I am not a Member. Such volumes as could not be obtained in any of the above libraries, I have consulted in the Reading Room of the British Museum. I have also to thank Dr. Malcolm, Conservator of the Wellcome Medical Museum, London, for permission to reproduce the excellent portrait of Pettigrew contained in the Museum.

BIBLIOGRAPHY.

1. Becker (Wilhelm Gottlieb). *Augsteum | ou | Description des Monuments Antiques | qui se trouvent a Dresde | 3 vols. folio.* Leipzig, 1809-1811.

In volume I, pp. 5-27, is an account of Egyptian mummification, based upon Herodotus, Diodorus, etc. and an account of the mummies in the collection. These are : 1st A Roman mummy in decorated cartouche with a portrait-panel; 2nd A similar female mummy. Both these were found by Pietro della Valle; 3rd Mummy of a child; 4th A damaged mummy, probably Ptolemaic; 5th A female mummy which the Author calls «desiccated». From the description, it may be a Middle Kingdom specimen.

2. Belon (Pierre) [Bellonius⁽¹⁾]. *Petri Bellonii Cenomani De Amirabilium Ope- | rum antiquorum et | rerum suspiciendum praestantia | Liber Primus | De medicato funere, seu cadavere | conditio et lugubri defunctorum | eiulatione. Liber Secundus | De medicamentis nonnullis Servandi | cadaueris vim obtinentibus. Liber tertius | Ad Reuer & Illustriss. D. Fran. Card. | Turnonium. | Parisiis, | Apud Guiliemum Cauellat, in | pingui Gallina | ex adverso Collegii Cameracensis, | 1553. 8vo. 54 fol. (r. and V).*

Book I deals with Pyramids, Colossi, Obelisks, Tombs, etc. Book II describes the Egyptian, Jewish, Ethiopian and other methods of embalming, according to Herodotus and other authors. Other methods of preservation, such as freezing, etc. Book III deals with the preservatives : Cedria, Pissaspaltum, Naphtha, Nitre, etc.

⁽¹⁾ Born about 1517. Studied medicine and took Doctor's degree at Paris. Came under the patronage of Cardinal de Tournon who supplied him with the means of undertaking an extensive scientific journey to the East in 1546-1549. He published a number of works on botany, anatomy and natural history. He was assassinated in Paris in 1564.

3. — P. Bellonii Cenomani De Arboribus Coniferis, Resiniferis, Alliis quoque nonnullis sempiterna fronde virentibus. Paris 1553. 8vo. 32 folios.

The title of this book explains its scope. It deals at some length with the resins, etc. used in mummification.

4. — Les Observations | de plvsievr singylaritez et | choses memorables trouuées in Grèce, Asie, In | dée, Égypte, Arabie et autres pays étran | ges, redigées en trois liures | Par Pierre Belon | du Mans. | A Paris | en la boutique de Gilles Corrozet, en la grand | Salle du Palais, près la chapelle de messieurs les Présidens. 1553. 8vo.

A collection of very curious information illustrated with woodcuts. In Book II, Ch. lxii, in describing the Pyramids, a short account of Egyptian embalming is given.

5. Belzoni (Giovanni⁽¹⁾). Narrative of the Operations and Recent Discoveries in Egypt and Nubia. London, 1820. 4to.

On pages 165-171 is an account of mummification after Herodotus, with interesting comments based on Author's own experience. Like many other observers of his time, he makes various speculations as to the significance of the position of the arms, etc. in mummies.

6. Birch (Samuel⁽²⁾). On a Mummy opened at Stafford House. *Transactions of the Society of Biblical Archaeology*, vol. V, London, 1877, pp. 122-126 and 1 plate. 8vo.

The greater part of this account is concerned with a description of the

⁽¹⁾ Italian explorer, born at Padua 1778. Travelled extensively in Egypt and carried out excavations for Salt and others. His greatest discovery was the tomb of Seti Ist at Biban el-Moluk, from which he brought to England the alabaster sarcophagus now in the Soane Museum, London. He died of dysentery at Benin in 1823. (See CARTER, *Tomb of Tutankhamen*, vol. 1, pp. 67 ff.).

⁽²⁾ Born 1813. Educated at Merchant Taylor's School. At the age of 18 took up the study of Chinese. He was first employed by the Commissioners of Public Records, but entered the

case. The mummy itself was that of an aged man. It was presented by its owner the Duke of Sutherland to the Museum of the Royal College of Surgeons where the skeleton is still preserved, and was described by FLOWER, *Ibid.*, vol. IV, 1876, pp. 259-255 (see below No. 31).

7. — Account of the Coffins and Mummies discovered in Egypt on the occasion of the visit of H. R. H. The Prince of Wales in 1868-1869. *Transactions of the Royal Society of Literature*, New Series, vol. X, London 1870, pp. 1-29 and 1 plate. 8vo.

The greater part of this account is devoted to the coffins (19 in number) and their inscriptions. The mummies are briefly described and measurements given. They belong to the Saite period.

8. — Notes upon a Mummy of the Age of the XXVIth Dyn. *Archæological Journal*, vol. VII, London 1850, pp. 273-280. 8vo.

A very full account of a mummy unrolled by Birch on June 10th 1850. It was enclosed in two cartonage cases, one of which was much too big, and filled with padding. The viscera were in packets in the body cavity, and the other details, which are fully given, show that the mummy belongs to the XXIst or XXIInd Dynasties. Digits each provided with a silver sheath (cf. The mummy of Tutankhamen, No. 18). The name on the cartonage is Ankh-s-n-Ese, but on one of the wrappings is a hieratic graffito with the name Amenerdis. On this account, Birch dated the mummy to the XXVIth Dyn., but it is evidently a mummy of XXIst Dyn. restored in the XXVIth Dyn. A very valuable memoir.

British Museum as an assistant, in 1836, in the Department of Antiquities. In this work he was given great scope for the study of ancient Egyptian, in which he had already interested himself. He was one of the pioneers in England, and published the first Egyptian Dictionary. The great development of the Egyptian collections in the British Museum is largely due to him, and during his term of office, many very important official publications were issued under his editorship. He had been appointed Keeper of the Department of Oriental Antiquities in 1861. He was a prolific writer, and published many memoirs on all branches of archæology. Died 1885.

9. Blumenbach (Johann Freiderich⁽¹⁾). Observations on some Egyptian Mummies opened in London. *Philosophical Transactions of the Royal Society*, vol. 84, London (1794), pp. 177-195. 4to.

The mummies examined were as follows: 1st Mummy of infant in miniature sarcophagus opened in the library of Dr. Garthshore, 21st January 1792. It turned out to be a package containing the integuments of a larger mummy impregnated with resin; 2nd Ibis; 3rd Faked mummy of child opened at the British Museum, 18th February 1792. It contained the humerus of an adult mummy; 4th Mummy of a child aged about 14, strongly caked in resin. Ears artificial, made of resin-soaked linen. Body filled with rags and a brown powder and lumps of resin, this resin covered with a white efflorescence; 5th Adult. No soft parts, only skeleton embedded in large quantity of brown dust. Resin between the teeth (Probably Middle Kingdom); 6th Child about 6. Teeth much worn in spite of age. No soft parts remaining. Belonged to John Symmons of Westminster.

Author considers that the mummies examined in Europe do not in the least bear out the accounts of Herodotus and Diodorus.

The rest of the paper deals with Egyptian physiognomy. In connection with the statement of Herodotus that the Egyptians exhibited a mummy at their feasts, an interesting quotation is given from CASPAR HOFFMANN, *De Medicamentis Officinalibus* with regard to a similar custom in Lower Saxony, as follows (p. 642).

«A Saxonibus audivi, nullum apud ipsos convivium transigi posse, sine mummei, uti appellant. Ita olim sine lacere, et hodie Indi sine asa fœtida nihil comedunt. Hinc, qui in Ægyptum eunt afferre secum solent talia cadavera.»

⁽¹⁾ German anthropologist, born 1752. Studied medicine at Jena, and graduated at Göttingen in 1775. Professor of Medicine there. His text books on physiology and anatomy had great vogue. He was one of the founders of modern comparative anatomy, and did eminent work in craniology. He divided the human family into the groups which form the basis of modern classification. Died 1840.

10. — Über die ägyptischen Mumien. *Beytrage zur Naturgeschichte*, Band II, Gottingen 1811, pp. 45-144. 12mo.

After the introductory sections which deal with the object of mummification, tombs, sarcophagi, etc., § 6 deals with the state of preservation of the soft parts. These are usually filled with resin in every cavity. Muscles usually well preserved. The ingredients, natron, cedria and asphalt. The cedria is resin from the cedar of Lebanon. Asphalt not found pure in mummies. Various resins found. Mumia; the word not used in Greek or Latin texts till the 12th Cent. Quotes St. Augustine «The Egyptians dried their bodies so hard that they resembled ore, and called them 'gabbaras'» (sacredly preserved). The Copts called the bodies *miolon*⁽¹⁾. Mummies were roughly treated by the embalmers. Perforation of the nose, and contents of cranial cavity. Sometimes filled with resin, sometimes empty. Hands and nails often gilded. Teeth usually much worn, even the canines. Very few mummies of children. Description of the London mummies (see No. 9) Faked mummies. Believes that the custom is of very ancient origin, and that it was continued under Christianity, although Caylus believes that it ceased under the Romans. Model mummies. Critical remarks. Conclusion, quoting Hoffmann (see No. 9).

11. Boerner (Frederic). *Antiquitates | Medicinæ Aegyptiacas | Exercitatione Academica | ad Diem IIII Mai A. P. S. CIJ IJ CCLVI | In avditoris Maiori | Publico Examini Subiicient | Praeses | Fredericus Boerner | Medic. Doctor et Prof. Publ. Extraord. | Academiæ Cæsar. Nat. Curios | Adscriptus Cæt. | et Respondens | Pallius Fabri | Neosol. ex Hungar | S. Theol. et Philol. C | Civ. Paun. in Acad. Witteb. A Biblioth | Wittebergæ | Stanno Schlo-machiano. Sm. 4to. 1756.*

Section liv. ff. (pp. 75 ff). «De Pollinctura, sive corporum mortuorum balsamatione».

⁽¹⁾ This is confirmed by the entry in the *Scala Magna ΜΙΟΛΩΝ*, which Athanasius Kircher (*Lingua Aegyptiaca Restituta*, Rome, 1643) translated 'mumia, cadaver humanum conditum'. *Mémoires de l'Institut d'Égypte*, t. XIII.

A good account in Latin, following Herodotus and Diodorus, with numerous references to other Classical writers, and a mention of several actual mummies then in Continental museums.

12. **Bruyère (B.).** Un jeune Prince ramesside trouvé à Deir el Médineh. *Bulletin de l'Institut français d'Archéologie orientale*, vol. XXV, Cairo 1925, pp. 147-165 and three plates. 4to.

Plundered burial of a child discovered in 1924 at Deir el-Medineh near tomb n° 250. The body, which had not been treated with resin, consisted of little more than the skeleton. A short description of it, p. 155. The carelessly embalmed body of a male child about five years old.

13. **Budge (Sir E. A. Wallis).** Prefatory Remarks on Egyptian Mummies, on the occasion of unrolling the Mummy of Bak-Ran. London, 1890, 26 pages and one plate. 8vo.

General account of the funeral and embalming of an Egyptian which has formed the basis of many similar accounts in various other works by the same Author. The mummy unrolled was a male of the Saite period (photograph of head and shoulders). The embalming-wound is stated to be on the *right* side of the body, a state of affairs of which only one other instance is known.

14. — A Guide to the First, Second and Third Egyptian Rooms. London, British Museum, 3rd ed. 1924. 8vo.

A full and admirably illustrated account of the coffins and mummies in the British Museum collection. It is prefaced by a short account of the process of mummification, which needs revision on several points.

15. — The Mummy : A Handbook of Egyptian Funerary Archaeology. New Edition, Revised and enlarged. Cambridge 1925. 8vo.

A very full and well illustrated account of all the customs and antiquities connected with the funerary cult. On pp. 201 ff and 336 ff. is

an account of mummies and of mummification which has not been brought up to date, and repeats many of the errors of the first edition published in 1893. See *Asiatic Review*, 1926, pp. 335-338.

16. **Caillaud (Frédéric).** *Voyage à Méroé*. Paris 1823-1827. Text, 4 vols. 8vo. Plates, 1 vol. folio.

In vol. IV, pp. 1-21 a very full account of a Græco-Egyptian mummy and its cases. The unrolling is described (p. 9) and a full account of the bandaging. The eyes and mouth were covered with gold plates, the abdomen and arms gilded and the arms placed at the sides of the body. The nose was perforated for the removal of the brain, and the embalming incision vertical and placed high up. Pl. 71 has excellent picture of the mummy after it had been unrolled.

17. **Carter (Howard).** *Five Years Explorations at Thebes*, by the Earl of Carnarvon and Howard Carter, Oxford 1912, folio.

Many mummies, principally of XVIIth Dynasty, were found. These were always in fragile condition. The descriptions of the mummies and their wrappings are very brief. See pp. 24-70 and pls. 16, 17, 53, 56-63.

18. — The tomb of Tutankhamen, vol. II, London, 1927. 8vo.

In Ch. viii is given a very full account of the unwrapping of the mummy of the king and of the array of jewellery and amulets found upon it. In Appendix I, Dr. D. E. Derry gives an account of the technique of embalming, which presents many interesting features, and also the anatomical evidence of age. The position of the embalming incision and the disposition of the arms and hands differs from those of the known royal mummies which are nearest in date. The digits of the hands and feet were provided with gold sheaths. (Cf. above, No. 8.)

19. **Caylus (Comte de⁽¹⁾).** Des Embaumements des Égyptiens. *Histoire de l'Académie des Inscriptions et Belles-Lettres*, vol. XXIII, Paris, 1756, pp. 119-136. 4to.

This memoir is divided into two parts : 1° Sur les momies en elles-mêmes; 2° Sur les caisses et sur les lieux où elles étoient conservées.

Discusses Herodotus and Diodorus, and the materials. Also mummy as a drug. His observations contain no new information, and on some points are quite erroneous, *e. g.* he states on p. 135 that it is physically impossible to preserve the hair!

20. **Daressy (Georges).** Les Cercueils des prêtres d'Ammon (deuxième trouvaille de Deir el-Bahari). *Annales du Service des Antiquités*, Cairo, 1907, vol. VIII, pp. 3-38. 8vo.

A full inventory of all the mummies and coffins in this « find », with many valuable observations on their wrappings and the objects found upon them.

21. — Fouilles de la Vallée des Rois : Tombe de Maherpra (*Catalogue général du Musée du Caire*), Cairo, 1901. 4to.

On pages 59 ff. a full description of this interesting XVIIIth Dyn. royal mummy. Excellent photographs, pls. 16, 17.

22. — Observations prises sur la momie de Maherpra. *Annales du Service des Antiquités*, vol. IV, Cairo, 1903, pp. 74-75. 8vo.

Brief description with measurements. The mummy is described fully in No. 21. See also No. 27.

⁽¹⁾ Anne Claude Philippe de Tubières de Grimoard de Pestels de Lévis, Comte de Caylus, Marquis d'Esternay, Baron de Bransac, was born in 1692. He was a man of letters and an amateur archaeologist and collector of antiquities. He was a great patron of the arts and a prominent figure in the social life of Paris, died 1765.

23. — Tombe de Hor-Kheb à Saqqareh. *Annales du Service des Antiquités*, vol. IV, Cairo, 1903, pp. 76-83. 8vo.

On pp. 80-83 is the description of a Ptolemaic mummy and the numerous amulets with which it was bedecked.

24. **Davidson (John⁽¹⁾).** An address on Embalming Generally, delivered at the Royal Institution, on the Unrolling of a Mummy. London, 1833, 8vo. 23 pages and 4 plates.

An account of a female mummy which can be dated with certainty to XXIst Dyn. from the full description, and from the excellent plates. The author discusses Herodotus and Diodorus at length, and considers that his mummy has been treated in a manner which can be reconciled with their accounts.

25. **Dawson (Warren R.).** A mummy from the Torres Straits. *Annals of Archaeology and Anthropology*, vol. XI, Liverpool, 1924, pp. 87-94 and pls. X-XII. 8vo.

A full description of a mummy in the British Museum and of other specimens with special reference to the analogies in their technique with that of Egypt in XXIst Dyn.

26. — A mummy of the Persian Period. *Journal of Egyptian Archaeology*, vol. XI, London, 1925, pp. 76-77. 4to.

An epitome of the description by Granville (No. 44) of a mummy presenting many interesting features.

27. — Contributions to the History of Mummification. *Proceedings of the Royal Society of Medicine*, vol. XX, 1927, part 6, pp. 832-854. 8vo. Contains: 1st Description of a Guanche mummy, with a discussion of the method of packing the body which precisely resembles that of XXIst

⁽¹⁾ Born 1797. Studied medicine at Edinburgh and at St. George's Hospital, but on early signs of health failing, gave up medicine. Resided at Naples and travelled extensively in Africa and the Near East. Elected F. R. S. in 1832 and took up the study of Egyptology. Died 1836.

Dyn. in Egypt; 2nd The mummy of Maherpra, and the methods of disposing the arms in Egyptian mummies; 3rd The various methods of removing the brain; 4th A Peruvian mummy with remarks on the use of the salt-bath by the Egyptians; 5th A mummy from Torres Straits.

28. — Making a Mummy. *Journal of Egyptian Archaeology*, vol. XIII, London, 1927, pp. 40-49 and pls. 16-18. 4to.
An account of all the procedures of mummification, with corrections of popular errors, and some new suggestions as to the methods of salting and desiccation.

29. — Egyptian Mummies, London, 1924 (with G. Elliot Smith, see no. 142).
30. — Two Egyptian Mummies preserved in the Museums of Edinburgh. *Proceedings of the Society of Antiquaries of Scotland*, vol. 61, Edinburgh, 1928, pp. 290-296. 4to.
Detailed descriptions of the mummy of an infant, a well prepared example of Ptolemaic technique, and of the mummy of an adult woman assigned to XXIVth Dyn.

31. — On Two Mummies formerly belonging to the Duke of Sutherland. *Journal of Egyptian Archaeology*, vol. XIII, London 1927, pp. 155-161 and pl. XXXVI. 4to.
Observations on a mummy unrolled many years ago by Birch (see No. 6) attributed by him to XXVIIIth Dyn., but now assigned to the Middle Kingdom. Description of a mummy of the XXVIth Dyn. now in the British Museum.

32. De Morgan (Jacques). *Fouilles à Dahchour, mars-juin 1894*. Vienna 1895. 4to.
Discovery of remains of royal mummies of the Middle Kingdom. See pp. 52, 98 and 110. For report on the bones see No. 39.

33. Derry (Douglas E.). Report on the Examination of Tutankhamen's Mummy. (Appendix I to HOWARD CARTER's *Tomb of Tutankhamen*, vol. II, see above, No. 18).
34. Diamond (Hugh Welch⁽¹⁾). Description of an Egyptian Mummy and of the Hieroglyphics on its case, supposed to be of the time of the Psammetici, opened in 1843. *Archæologia*, vol. 31, London 1846, pp. 408-411. 4to.
Bought at a Customs House sale. It had been ripped open by the officials to see if it contained contraband. Viscera removed and placed in parcels between the legs. Body-cavity tightly packed with reddish wood-dust. The second part of the paper deals with the inscriptions. The method of embalming is in accordance with the age assigned by Birch.

35. Fouquet (D.). Note pour servir à l'Histoire de l'Embaumement en Égypte. *Bulletin de l'Institut Égyptien*, 3^e série, No. 7, année 1896, Cairo 1897, pp. 89-97. 8vo.
This paper has the merit of observing for the first time that the mummies of XXIst Dyn. were artificially packed, but it contains errors of observation which are almost incredible for a medical man. It is stated e. g. that the muscles of the back, and the eyes, were ablated. Almost every detail of the account proves to be wrong. The same material was worked out correctly by Elliot Smith (see No. 122).
36. — Notes sur les Momies des Pharaons Ramsès II et Ramsès III. Appendix III to MASPERO's *Momies Royales* (see No. 73). *Mémoires de la Mission Archéologique française au Caire*, vol. I, Paris 1889, pp. 773-776. 4to.

⁽¹⁾ Born 1809. Studied medicine and assisted Abernethy. Practised in Soho and distinguished himself during the cholera outbreak of 1832. Specialised in mental disease, and founded a home at Twickenham in 1858 at which he lived as resident physician till his death. One of the pioneers of scientific photography and an eminent antiquary. Died 1886.

37. — Note sur la Momie de Soqnoûnri. Appendix IV to MASPERO, *Momies Royales*. *Ibid.*, pp. 776-778. 4to.

Considers the body was in advanced stage of decomposition when embalmed, and reconstructs the death-scene, from an examination of the wounds. The conclusions drawn are untenable, and are discussed in Nos. 135 and 152.

38. — Note sur la Momie d'un Anonyme. Appendix V to MASPERO, *Momies Royales*. *Ibid.*, pp. 778-782. 4to.

Description of a mummy believed to have been poisoned.

39. — Note sur les Crânes de Dahchour. (In DE MORGAN, *Fouilles à Dahchour*, Vienna 1895, pp. 147-151. 4to).

Observations on the skulls and other remains of the royal mummies of Middle Kingdom found in 1894. The account is very incorrect and is commented upon by Elliot Smith, No. 122, pp. 6-9.

40. Gannal (Jean Nicholas⁽¹⁾). *Histoire des Embaumements*, 2nd ed., Paris 1841. 8vo.

Ch. iv, pp. 103-159 deals very fully with Egyptian embalming. He observes that mummification probably had its origin in the natural preservation of bodies preserved by burial in the sand. Quotes Rouelle, Caylus and others, and gives almost the whole of the valuable article by Rouyer (No. 107).

41. Garstang (John). *The Burial Customs of Ancient Egypt*, London, 1907. 4to.

An interesting burial of IIIrd Dyn., wrapped in linen and in the contracted position, similar to that found by Quibell at Saqqara (see No. 132),

⁽¹⁾ Born 1791. Served in the medical department of the French army, and afterwards took up chemical research. He was a man of very great resource, and made many important innovations both in technical and medical chemistry. He devoted much attention to the preservation of animal tissues for anatomy, and to the embalming of the dead. He devised a system which was very successful and had great popularity. Died 1852.

p. 29. A series of Middle Kingdom mummies with good photographs, pp. 29, 57, 67, 82, 92, 171, 177. Curiously enough, the Author does not recognize that mummification had been attempted.

All the above discovered at Beni Hasan.

42. Gliddon (George R.). *Otia Aegyptiaca. Discourses on Egyptian Archæology and Hieroglyphical Discoveries*. London, 1849. 8vo.

«Three Discourses on the Art of Mummification», pp. 52-113. Very discursive, with a great deal of irrelevant matter. The author observes, however, that bodies inhumed in the sand are naturally preserved, and that when burial in tombs began artificial measures became necessary (pp. 60-61). Author considers that the earliest mummies were preserved with natron only (i. e. without resin).

43. Gmelin (Johann Freiderich⁽¹⁾). *Experimenta Nonnulla cum Mumiis Instituta. Commentationes Societatis Regiae Gottingensis*, vol. IV, Gottingen, 1781, pp. 3-25. 4to.

A learned dissertation in Latin mainly dealing with the chemical constituents of mummy-material. The results differ considerably from those of Rouelle (No. 106).

44. Granville (Augustus Bozzi⁽²⁾). *An Essay on Egyptian Mummies with Observations on the Art of Embalming among the Ancient Egyptians*, by A. B. Granville, M. D., F. R. S., F. G. S., M. R. I., one of His Royal Highness the Duke of Clarence's Physicians. *Philosophical Transactions of the Royal Society*, London, 1825, pp. 269-316 and 6 plates. 4to.

A minute anatomical description of a female mummy which must be assigned to the Persian Period. The paper gives a good account of

⁽¹⁾ Member of a distinguished family of German naturalists of Tübingen. Born 1748. Professor of Medicine at Tübingen 1772, Göttingen 1775. Edited the 13th edition of Linnaeus' *Systema Naturæ* in 1778, with many alterations and additions. Died 1804.

⁽²⁾ Of Italian origin, born 1783. Studied medicine at Pavia under Spallanzani and Volta, but his studies were interrupted by imprisonment for his political opinions. On his release,

Mémoires de l'Institut d'Égypte, t. XIII.

previous research on mummies and draws very sound conclusions. One of the most valuable and original contributions to the subject. The paper has been summarised by Dawson, No. 26.

45. Greaves (John⁽¹⁾). *Pyramiographia* | or a | Description | of | the | Pyramids | in Ægypt. | London, 1646, 12mo. 119 pages.

On pages 48-57 is a translation of Herodotus and Diodorus, with many observations thereon based upon the examination of actual mummies.

46. Greenhill (Thomas⁽²⁾). *NEKPOKHΔEIA* : | or the | Art of Embalming | wherein is shewn | The Right of Burial | the Funeral Ceremonies | And the Several Ways of | Preserving Dead Bodies | in Most Nations of the World. | With an account of | The particular Opinions, Experiments and Inventions | of modern Physicians, Surgeons, Chymists and Anatomists | also | Some new Matter propos'd concerning a better Method of Embalming than hath hitherto been discover'd | and A *Pharmacopœia Galeno-Chymica*, | *Anatomia sicca sive incruenta*, etc. | In three parts. | The whole Work adorn'd with variety of Sculptures. | By Thomas Greenhill, Surgeon. | London, Printed for the Author, 1705. Small 4to. [There is a second title page similarly worded].

The volume was evidently intended to be the first of three, but no

travelled in the East, and settled in England, becoming M. R. C. S. in 1813 and L.R.C.P. in 1817. Was a Fleet Surgeon and travelled considerably. Practised in Saville Row, London, in 1818. Elected F. R. S. in 1817. He specialised in diseases of women and children. After a most active life, he died at Dover in 1872, aged 88.

⁽¹⁾ Born 1602. Educated at Balliol College Oxford, Professor of Geometry at Gresham College London 1630. Travelled in the East 1637. Savilian Professor of Astronomy at Oxford 1643. Was deprived of his fellowship and professorship on account of his adherence to the Royalist cause. Died 1652.

⁽²⁾ Born 1681 and early took up the study of medicine. His mother had 39 children, all born living, in commemoration of which an addition was made to the family arms in 1698. He practised as Surgeon in King Street Bloomsbury, and won great repute. His father had been secretary to General Monck. He made two contributions to the *Philosophical Transactions*, and died about 1740.

further parts appeared. A number of dedicatory verses follows a fulsome dedication to the Earl of Pembroke, and a Preface. The whole work is in the form of three letters, each to a different recipient, and each plate is dedicated to a different person.

The first part of the book deals with a long series of thoughts concerning death and burial, with numerous quotations from Classical and Renaissance authors, and references to the customs of various countries. The physical characters of the land and inhabitants of Egypt next follows, then the accounts of mummification by Herodotus and Diodorus. The author disagrees with Herodotus' account of removing the brain.

Excerpt. « So the extraction of the Brain, after the manner propos'd by him, is a very difficult and tedious piece of Work, if possible to be perform'd at all; but his wrong beginning of this Work of Embalming is not so material a Mistake, as his amusing us with a Story of drawing forth the Brain thro' the Nostrils with a crooked Iron (by which I suppose he means some particular Sort of Instrument) and not farther explaining himself how or after what manner it was done; and indeed I believe he could not, the thing being in itself impracticable and ridiculous, which any one skill'd in Anatomy will readily agree to. But grant it could be done, the aforesaid extraction of the Brain through the Nostrils, must nevertheless so dilacerate the cartilaginous parts of the Nose, that the carious and cutaneous parts would sink, and thereby render the Face deform'd » (p. 249).

He goes on to state his opinion that the brain might be removed in a fluid state by injecting corrosive drugs.

A long dissertation on Nitre and the other drugs mentioned by Herodotus follows, and a discussion of the nature and application of the bandages. Account of coffins, amulets and other antiquities with curious illustrations. One of his illustrations, copied from Dr. Nardi's (Nardius) *Lucretius*, shows a semi-circular pectoral on which is represented a corpse on a table, accompanied by two operators, one of which is inserting a knife into the thorax of the body. The last part of the book deals with a description of the Pyramids and other Egyptian tombs.

Amongst this mass of curious and mostly irrelevant matter are some shrewd and valuable observations. These are quoted at the beginning of *Egyptian Mummies* (No. 142).

47. **Grew (Nehemiah⁽¹⁾).** *Musæum Regalis Societatis* | or a | Catalogue and Description | of the Natural and Artificial | Rarities | Belonging to the | Royal Society | And preserved at | Gresham Colledge | made | By Nehemjah Grew M. D. Fellow of the Royal Society | and of the Colledge of Physitians. | Whereunto is Subjoyned the | Comparative Anatomy | of | Stomachs and Guts | By the same Author. | London, Printed by W. Rawlins for the Author, 1681. Small folio.

Excerpt (Page 1) «Of Animals. Sect. I. Of Humane Rarities. An Egyptian Mummy given by the Illustrious Prince *Henry Duke of Norfolk*. It is an entire one taken out of the Royal Pyramids. Its length, five feet and 1/2, defended with several linnen Covers, all woven like ordinary Flaxen Cloth. But by the spinning, distinguish into three Kinds. The Utmost is like Flaxen Cloth of two shillings an Ell : the inmost of half a Crown : the middle most of three shillings or thereabout.

The utmost Cover is divided into several pieces, each of doubled Linnen, and adapted in figure to the part it covers (p. 2) as one on the Breast, another on the Belly, and so on all the principal parts. On each of these pieces is laid a white Paint, of a kind of chalky or limy substance, of the thickness of a Hen-Egg-shell. Upon this chalky ground are drawn the Hieroglyphick Figures of Men, Women and Birds : in Gold, yellow, red and blew. But with very rude shapes, and the colours no where mixed together. So very mean was the Art of Painting

⁽¹⁾ Son of a Non-conformist divine, born 1641. Graduated at Cambridge in 1661 and took M. D. degree at Leiden in 1671. Elected F. R. S. in 1671 on the strength of his communication on «The Anatomy of Vegetables». In 1672 practised as physician in London, and became Secretary of the Royal Society in 1672. Contributed to the *Philosophical Transactions*. His greatest work appeared in 1682 on the anatomy of plants. He published a number of botanical and anatomical works, and died in 1712.

amongst the *Ægyptians* heretofore. For we have reason to believe, that what was done for one of thier Kings or Nobles, was done with their best Skill.

The middlemost Cover consisteth of one single and entire piece of Linnen, almost like a Winding-sheet. It is also tinged with some kind of Paint, but very lightly, and without any Figures.

The inmost Covering is wrapped about the Head, Trunk, each Arm, and each Leg apart, about thirty or forty times, like so many Swathing Bands. About twenty of the utmost of these folds are lightly tinged, all the other inmost more fully, with a blackish and gummoous substance. But the Flesh so fully, as it seems to be converted into black Rosin : which being held to the flame of a Candle, is a little odorous and inflammable. The Bones also, are not only outwardly, but also quite through, of a black colour, as if they were burnt.

From hence it is very probable, That the way of Embalming amongst the *Ægyptians*, was by boiling the Body (in a long Cauldron like a Fish-kettle) in some kind of liquid Balsome : so long till the aqueous parts of the flesh being evaporated, the oily and gummoous parts of the Balsome did by degrees soak into it, and immediately incorporate therewith. Much after the same manner, as the Sugar doth, in the conditing of Pears, Quinces and the like.

Tis also likely, that a better way migh be taken, than is used by the *Ægyptians*. And that is by boyling, or rather seaking the Body in some white sort of Oyl, and such as will dry (as that of Walnuts) made and kept so hot, as to evaporate the watery parts by degrees, and to keep the flesh white, and not brittle, but limber and pliant. Which, especially in the business of Anatomy, would be of good use : because (p. 3) all the Muscles of the Body being first parted one from another, might hereby be preserved sound, clean, and limber upon the Bones : and so all the motions of the parts be explicated with the greatest ease, and without any offensiveness.

Tis equally probable, that the whole Compages of the Muscles, as they lie upon the Bones, might with little trouble, and less charge than by the former way, be truly Tanned, or reduced to a limber sort of

Leather : whereby also the Westage of the Fibers, or other mechanisme of the Muscles might more easily and leisurely be observed. For the skins of Beasts, wherof Leather is daily made, are Muscular : and in mans Body consisteth, for the most part, of the same carious fibers, as the Muscles, but more closely woven or matted together.» [The last section deals with mummy as a drug, which the author condemns.]

This same mummy was described more scientifically by HADLEY (see No. 51).

48. **Griffith (Francis Llewellyn).** Stories of the High Priests of Memphis. Oxford, 1900. 8vo.

On pp. 29 ff. translation of an important passage in the Story of Satne giving particulars as to the period taken by various stages in embalming, with valuable references to kindred texts.

49. — Article Mummy. *Encyclopaedia Britannica*, XIth ed., 1911, vol. XVIII, pp. 697-698. 4to.

50. **Gryphius (Andreas).** And Gryphii | Mumiæ | Wratisla | vienses. Wratislaviae | Sumptibus Viti Jacobi | Drescheri | Anno MDCLXII, 16mo. 120 pages.

Description of the mummies at the dispensary of Crusius at Breslau. One is the body of a young woman, with an onion affixed to the sole of the right foot. Arms crossed on breast, left over right, fingers closed. (Illustration on p. 41). Face covered with a resinous mask. Hair black, crisp. Eyebrows well defined. Nose flattened, nostrils plugged with unguent. Teeth white and perfect. Head consolidated on trunk by a palmrib. Brain not extracted through nostrils, but by the *foramen magnum*. Resin inside skull. Author thinks it impossible to preserve the face if the nasal method is used. The other mummy was indurated with 'pissaspaltum', with a lustrous surface. Gaping embalming wound below the navel. No hair on head, the whole coated with 'asphalt'. One tooth visible.

Gryphius expected to find myrrh, aloes and other spices, but found nothing but 'asphalt' or gum in every part of the body, including the bones. The first mummy is treated in exactly the same way as that described by Grew and Hadley. (See Nos. 47, 51).

51. **Hadley (John⁽¹⁾).** An Account of a Mummy inspected at London in 1763. In a letter to William Heberden, M. D., F. R. S.⁽²⁾, from John Hadley, M. D., F. R. S. Read January 12th, 1764. *Philosophical Transactions of the Royal Society* (for the year 1764). London 1765, vol. 54, pp. 1-14. 4to.

This is an account of the same mummy as that described by Grew (See No. 47). Since Grew's time the mummy had been damaged and carelessly mended with nails and wire. The head been detached by the embalmers, and resinous material poured in through the *foramen magnum*. Within the abdomen were found numbers of the smaller bones of the skeleton mixed with crumbled resin which adhered to the spine. Hands crossed on breast, right hand uppermost. Hands damaged and metacarpal bones found in thorax. All much corroded. Onion bulb tied to sole of left foot, and traces of another on right foot. Figured very accurately in Plate I. [A similar state of affairs in the mummy described by Gryphius (see No. 50, p. 38)]. The complete absence of soft parts except the feet leads the author to believe that the mummy was unfleshed before the resin was applied.

[This mummy is evidently a poorly made one of the Ptolemaic period, and resembles those described by Wood-Jones (No. 141)].

⁽¹⁾ Born 1731. Studied Chemistry, Physics and Medicine, and took his M. A. degree in 1756. In the same year he was appointed Professor of Chemistry at Cambridge. In 1758, he was elected F. R. S., and upon taking the M. D. degree in 1763, he was appointed Physician to the Charterhouse, becoming F. R. C. P. the same year. He was an intimate friend of Thomas Gray. Died 1764.

⁽²⁾ Born 1710. A clinical physician of very high reputation. His methods form the connecting link between those of Sydenham and Bright. He was the first to describe Varicella and Angina Pectoris. (See *Archiv für Geschichte der Medizin*, vol. XIX, 1927, pp. 1 ff.). Died 1801.

52. Hertzog (Christian). *Essay de Mumio-Graphie* | ou plutôt | Description exacte | et sincère | d'une des plus rares | et d'une | des plus curieuses | Mومies | qu'on ait jamais vues | en Europe | qu'on trouve actuellement | chés | Christian Hertzog | Apothecaire Botaniste | De | Son Altesse Serenissime | Monseigneur | Le Duc de Saxe-Gothe. | Gothe, par Jean Andre Reyher. Imprimetur Dc. 1718. 12mo. 77 pages.

Epitome. Introduction. How to tell real from false mummies. Reasons for embalming: to stop corruption and to ensure the veneration of the dead, and to preserve the corpse during the long feasts and funeral ceremonies. Early Christians followed the Egyptian custom. Brief description of Egyptian mummies based apparently upon the examination of actual specimens. Description of tombs, evidently those of Saqqara.

Exact description of the mummy. Brown, not black, in colour. Smelt strongly and pleasantly balsamic. 35 layers of wrappings. Arms crossed on chest, nails gilded. Body cavity filled with a plastic paste. Head missing. 74 amulets found amid the wrappings accurately figured. Description of the amulets. Conclusion which includes a description of mummy medicine and an inventory of the objects.

53. Jomard (E.). *Description des Hypogées de la Ville de Thèbes (Description de l'Égypte, Antiquités, vol. II)* 1813. folio.

The section headed 'Momies Humaines' contains a very good and observant account of Theban mummies and their wrappings.

54. Junker (H.). *The Austrian Excavations 1914. Journal of Egyptian Archaeology*, vol. I, London, 1914, pp. 250-253. 4to.

Description on page 252 of certain mummies that had been treated with a layer of plaster on which the facial features were painted. Some of these had the whole body so covered, others the face only. From the Giza necropolis: Old Kingdom.

55. Lanzoni (Joseph⁽¹⁾). *Josephi Lanzoni Philosophi et Medici Ferrariansis nec non S.R.I. Academiæ Curiosorum Collegæ, etc. Tractatus de Balsamatione Cadaverum. In quo non tantum de Pollinctura apud Veteres: sed etiam de variis Balsamandi Cadavera modis apud Recentes, multa curiosa breviter exponuntur.* Geneva 1696. 12mo. (Reprinted in *Josephi Lanzoni Omnia Opera*, vol. III, Lausanne, 1738).

A general manual on embalming ancient and modern. The author deals with the antiquity and purpose of the custom, and the length of time that preserved bodies will last. Mentions the cases of Patroclus, Cleopatra, Alexander the Great and others. Ch. 4 deals with temporary embalming with spices, with quotations from the Bible, Virgil, Homer, etc. Ch. 5. The nature of the materials used. Ch. 7, embalming by the ancients, and the use of salt, myrrh, asphalt, gypsum, etc. Ch. 8 deals with Mumia, bitumen and pitch, and mentions mummy as a drug. Ch. 9 deals with modern embalming. Although reference is frequently made to Egyptian embalming, no particular mummies are described, and the usual commentary on Herodotus and Diodorus is absent.

56. Laskowski (S.). *L'Embaumement, la Conservation des Sujets et les Préparations anatomiques.* Geneva-Basle-Lyons, 1886. 8vo.

Deals mainly with modern methods, but mentions Egyptian mummification, pp. 9-13. In the author's opinion, based upon examination of mummies at the Paris Exhibition of 1867, the essential part of Egyptian embalming consisted of gradual desiccation.

57. Ledrain (E.). *La Momie.* Paris 1876, 16 pages. 8vo.

A pamphlet dealing with embalming of mummies generally, with

⁽¹⁾ Joseph Lanzoni, Italian physician and philosopher, was born at Ferrara in 1663. From 1696 till his death, he occupied the chair of Philosophy at the university of his native town, where he died in 1730. His works were collected and posthumously republished in 3 vols. in 1738.

special reference to "The Ritual of Embalming", "The Book of the Dead", etc. The observations are based mainly upon the works of Maspero.

58. Loat (L.) Gurob. (*Egyptian Research Account Memoir*, bound up with Murray, *Saqqara Mastabas*, Part I), London, 1905, p. 2. 4to.
Unusual mummy of XVIIIth Dyn., and another, Ptolemaic.
59. Loret (Victor). Les Tombeaux de Thoutmès III et d'Aménophis II, et la Cachette Royale de Biban-el-Moloûk. *Bulletin de l'Institut Égyptien*, 3rd ser., No. 9, Année 1898, pp. 91-112 and pls. 1-14. Reprinted as a separate pamphlet with different pagination pp. 1-24, Cairo, 1899. 8vo.
The first description, with photographs, of the royal mummies found in the tomb of Amenophis II. The physical characters of the mummies were more clearly defined and certain errors corrected, by Elliot Smith (No. 139).
60. Lucas (A.). Preliminary Note on some Preservative Materials used by the Ancient Egyptians in Embalming. *Cairo Scientific Journal*, vol. II, 1908, pp. 133-147. 8vo.
61. — The Results of the Chemical Analyses of Materials from the Mummies found in the Tomb of Amenophis II. *Cairo Scientific Journal*, vol. II, 1908, pp. 273-278. 8vo.
62. — The Nature of the Preservative Bath used by the Ancient Egyptian Embalmers. *Cairo Scientific Journal*, vol. II, 1908, pp. 421-424. 8vo.
63. — The Preservative Materials used by the Ancient Egyptians in Embalming. *Cairo Scientific Journal*, vol. IV, 1910, pp. 66-68. 8vo.

64. — Chemical Report on Samples of Various Materials found in Nubia during the Progress of the Archaeological Survey. *The Archaeological Survey of Nubia, Report for 1907-1908*, Part II, *Report on the Human Remains*, Cairo 1910, pp. 371-374. 4to.
65. — Preservative Materials used by the Ancient Egyptians in Embalming. *Ministry of Finance, Survey Department Paper*, No. 12, Cairo, 1911, 59 pages. 8vo.
A valuable summary of the results of the above papers Nos. 60-64 with additional observations.
66. — The Question of the Use of Bitumen or Pitch by the Ancient Egyptians in Mummification. *Journal of Egyptian Archaeology*, vol. I, London 1914, pp. 241-245. 4to.
67. — The Use of Natron by the Ancient Egyptians in Mummification. *Journal of Egypt. Archæol.*, vol. I, London 1914, pp. 119-123. 4to.
68. — Ancient Egyptian Materials. London, 1926, pp. 110-125. 8vo.
A brief and valuable summary in popular form of the conclusions arrived at in the foregoing papers.
69. Macalister (A.). Notes on Egyptian Mummies. *Journal of the Anthropological Institute*, vol. XXIII, London, 1893, pp. 101-121. 8vo.
Notes on a miscellaneous collection of mummies and heads of mummies examined at Cambridge. The paper contains many interesting observations, and an attempt to follow out the details of the "Ritual of Embalming" on actual mummies.
70. Madden (Richard Robert⁽¹⁾). Travels in Turkey, Egypt, Nubia and Palestine. 2 vols. London, 1829. 8vo.
Some interesting particulars regarding mummies are given in vol. II,

⁽¹⁾ Born 1798. Studied medicine in Paris and London. Travelled extensively. Elected F. R. C. S. in 1855 and practised in Mayfair. Devoted much of his time to the emancipation of negroes and the relief of the poor Irish. Died 1886.

pp. 83ff. Author believes that powdered colocynth formed an important ingredient in embalming materials.

«In the heart of another mummy I found about three drachms of pure nitre, which must have been injected through the blood vessels, for the heart was entire» (p. 88).

The Arabs use mummy-powder in their medicines (p. 90). An extensive trade in faked mummies is carried on by them (p. 79).

Author believes that the cardinal principle of mummification is segregation from the air (p. 84).

71. **Magnus (Julius).** *Das Einbalsamiren der Leichen in alter und neuer Zeit.* Brunswick, 1839. 8vo. 139 pages.

On pages 22-63 a good historical account of Egyptian mummification, with many references.

72. **Martin (Ernest).** *Histoire des Monstres.* Paris 1880. 8vo.

The Introduction contains a summary of Saint-Hilaire's account of an anencephalous mummy in the Passalaqua collection. (See Nos. 88 and 118).

«Parmi les objets de cette collection, acquise en grande partie, depuis, par le musée de Berlin, se trouvait une momie et, près d'elle, une amulette en terre cuite, représentation grossière, mais fidèle, d'un singe, et dont l'attitude accroupie était tout à la fois celle de la momie, et celle qu'on avait coutume de donner aux animaux de cette espèce; d'où l'on avait conclu que les bandelettes recouvrant le corps d'un singe; mais, comme la taille et les dimensions dépassaient celles des animaux de ce genre, ensevelis dans les catacombes, on s'était demandé s'il n'y avait pas là quelque étrangeté et par conséquent quelle détermination à faire qui pût intéresser la science.

«On fait donc appel aux lumières d'Étienne G. St. Hilaire, et c'est le résultat de son examen qu'il vint lui-même annoncer dans cette séance.

«Aussitôt que les bandelettes enlevées eurent mis à découvert la momie, ce savant reconnut qu'il avait devant lui un être humain et en même temps monstreux. Le doute n'était pas possible : il s'agissait bien, en

effet, d'une de ces anomalies de l'organisation, qu'il venait d'étudier avec tant de soin et qu'il avait décrite dans plusieurs mémoires sous le nom d'Anencéphales, c'est-à-dire, d'êtres privés de cerveau : une circonstance venait encore éclairer et appuyer cette détermination : en effet, le nez avait été creusé dans le but d'extraire toute la substance cérébrale qui, suivant la pratique ordinaire des embaumements, devait être remplacée par une coulée de bitume : cette circonstance prouve que l'on ne s'était pas aperçu que le crâne, ouvert à la région supérieure, était vide de matière cérébrale, fait qui est la caractéristique des monstruosités de cette espèce.

«Ainsi, on avait embaumé, puis enseveli, un être né d'une femme, mais dont on regardait l'origine comme bestiale : on l'avait assimilé à un animal, mais d'une espèce qui, dans la symbolique égyptienne, occupait le premier rang et dont la religion prescrivait de conserver les restes : on l'avait, en un mot, honoré comme un animal sacré : on l'avait exclu des tombeaux humains, mais la nécropole d'Hermonthis l'avait recueilli et la postérité devait un jour trouver en lui le témoignage indiscutable de la croyance des Égyptiens dans l'origine bestiale des êtres humains monstrueux.»

73. **Maspero (Sir Gaston).** *Les Momies Royales de Déir el-Bahâri. Mémoires de la Mission archéologique française au Caire*, vol. I, pp. 511-787. Paris, 1889. 27 plates. 4to.

Full history of the discovery of the mummies at Deir el-Bahari in 1881, with descriptions of all that were then unrolled, an inventory of the objects and a long and valuable discussion of the history of the period covered by the «find».

The mummies were re-examined in 1910-1912 by Elliot Smith. (See No. 135).

74. — *La Trouvaille de Déir el-Bahâri.* Cairo, 1883. 20 photographs and 43 pages. 4to.

The preliminary account of the discovery and of the mummies more fully treated in No. 73.

75. — The Struggle of the Nations. London 1910, pp. 508-511. 8vo.
A general account of embalming in the New Kingdom based upon the royal mummies and a number of others discovered 1881 and 1886. Elsewhere in this work the heads of most of the royal mummies are figured.

76. — Mémoire sur quelques Papyrus du Louvre. *Notices et Extraits des Manuscrits*, Paris, 1875, vol. XXIV, pp. 14-104. 4to.
Translation and commentary on two papyri containing the «Ritual of Embalming» the surviving parts of which deal with the anointing and bandaging of the head, back and limbs of a mummy, and the religious formulæ recited during the process.

77. — Life in Ancient Egypt and Assyria. London 1892. 8vo.
Chs. vii and viii contain a popular account of the death, embalming and funeral of an Egyptian.

78. — Procès-verbal du Corps du Pharaon Amenothès II. *Annales du Service des Antiquités*, vol. III, Cairo, 1902, pp. 120-121 and pls. I and II. 8vo.
Report of the mummy, with photographs, after the robbery in the tomb in 1902.

79. Middleton (Conyers⁽¹⁾). *Germana quædam Antiquitates eruditæ | Monumenta | quibus | Romanorum veterum Ritus varii | Tum Sacri quam Profani | Tum Græcorum atque Ægyptiorum non nullis | Illustrantur.* | London, 1745. 4to.
Pls. 22 and 23 depict a mummy-case at Cambridge, and on pp. 251-266 a long and somewhat fanciful dissertation upon it in Latin. From the crudity of the plates, it is not easy to say to what period it belongs, but it is certainly later than the XIXth Dyn.

⁽¹⁾ British Divine, Born 1683. Fellow of Trinity College Cambridge. A man of varied tastes, and a keen controversialist. In one of his controversies he questioned the historical accuracy of the Bible, and for this he was threatened with the loss of his degrees. Died 1750.

80. Migliarini (Prof. E.). Account of the Unrolling of a Mummy belonging to the Grand Duke of Tuscany, by Prof. Migliarini. Translated from the Italian MS. by C. H. Cottrell Esq., M.A., with some notes by S. Birch, Esq., F. S. A. *Archæologia*, vol. 36, London (1855), pp. 161-174 and pl. 15. 4to.
Epitome. Female mummy brought to Europe in 1824. Enclosed in cartonnage with very elaborate wrappings. Bandaging very fully and carefully described. At intervals, a layer of resin over the whole applied with a brush. Shrouds alternating with layers of bandages. One shroud with a large figure of Osiris. Many bandages inscribed in hieratic and demotic, and many with drawings upon them, e.g. pads of linen with winged symbolic eye over each orbit, crocodiles on feet-bandages, figures of Isis, Nephthys, etc. on others. Nostrils not pierced, but hole through left orbit through which brain was extracted. Body itself in bad state, much corroded by hot resin, and very fragile. Innermost layers of bandage so firmly adhering that they could not be removed, consequently no observation of embalming-wound, etc. Hypocephalus under head and profusion of amulets on other parts of the body. Hands crossed on breast. Between arms and chest, a roll of papyrus. Birch's notes deal with the inscriptions, etc.
[Evidently a wealthy Ptolemaic burial. The profusion of amulets resembles the case described by DARESSY, *Annales du Service*, vol. IV, pp. 80-83. The papyrus is in the position indicated by the rubric in a Louvre Papyrus, REVILLOUT, *Zeitschrift f. äg. Sprache*, vol. 17 (1879), p. 92. The bandaging seems to have been carried out somewhat in accordance with the «Ritual of Embalming» (see MASPERO, No. 76).]

81. Möller (Georg). Die Beiden Totenpapyrus Rhind. Leipzig, 1913. 4to.
Text, translation and commentary of two late funerary papyri containing interesting details relating to mummification.

82. Murray (Margaret. A.). The Tomb of Two Brothers, with Reports on the Anatomy of the Mummies by Dr. John Cameron; the

Chemistry of the Remains by Dr. Paul Haas, Prof. H. B. Dixon, F. R. S. and E. Linder, B. Sc.; the Textiles by Thomas W. Fox, M. Sc.; the Colouring Matter of the Textiles by Prof. Julius Hubner, M. Sc. Tech.

Manchester Museum Handbooks. Manchester, 1910, 79 pages and 21 plates. 4to.

A very full and valuable description of two Middle Kingdom mummies at the Manchester Museum and their equipment. A very careful record of the bandaging, and full details of the technique of embalming. These bodies possess several points of interest in their physical characters.

83. **Nardi (Giovanni) [Iohannes Nardius]**. *Titi Lucretii Cari De Rerum Natura Libri Sex*. Florence, 1647. 4to.

A work frequently quoted by early writers. Pls. 2-4 represent mummies, and pl. 5 shows a Canopic Jar and shawabti figures, and the pectoral copied by Greenhill (see No. 37). The legend respecting this figure is: « Linteus pectoris amictus, suis distinctus coloribus, in quo vera exprimebatur cadavera secandi lex ».

84. **Naville (Edouard)**. *Deir el Bahari. Part II. Egypt Exploration Fund Memoir*, London, 1897, folio, p. 6.

Discovery of a dump of embalmers materials in a chamber of the XVIIIth Dyn. temple, mistaken for an embalmer's workshop.

85. — and others. *The Eleventh Dynasty Temple of Deir el Bahari. Egypt Exploration Fund Memoir*, London, 1907. 4to.

Royal mummies of the Middle Kingdom found in tombs under the temple. Brief descriptions, and photographs, pp. 44-50 and pl. 10.

86. **Osburn (William)**. *An Account of an Egyptian Mummy presented to the Museum of the Leeds Philosophical and Literary Society by the Late John Blayds Esq., Drawn up at the Request of the*

Council by William Osburn, Jnr. F. R. S. L., Secretary to the Society. With an Appendix containing Chemical and Anatomical Details of the Examination of the Body by Messrs. E. S. George, F. L. S., T. P. Teale and R. Hey. Leeds, 1828, 8vo. 53 pages and 5 plates.

A good part of this book is taken up by a description of the mummy-case and attempts to interpret its inscriptions. The account of the mummy, though brief, is excellent, and this, together with the medical appendices, enables us to place the mummy, from its technique, as intermediate between XXth and XXIst Dyns. This is further confirmed by the fact that the « braces » of the mummy, figured in one of the plates, bear the cartouches of the last king of the XXth Dyn., Ramesses XI.

87. **Parcelly (Dr.)**. *Étude Historique et Critique des Embaumements avec la Description d'une Nouvelle Méthode*. Paris 1891. 8vo.

Egyptian mummification described on pp. 20-45. A good summary of the subject. Origin ascribed to natural preservation by the sand. « Les anciens Égyptiens durent d'abord simplement profiter de ces conditions naturelles spéciales pour assurer la conservation des corps de leurs défunt. Puis ils adjoutèrent l'art à la nature afin de mieux assurer la désiccation » (p. 26).

Summary of the observations of Rouyer (No. 107) with a long quotation therefrom.

88. **Passalacqua (Joseph)**. *Catalogue raisonné et historique des Antiquités découvertes en Égypte*. Paris 1826. 8vo.

Brief description of the mummies in the collection, pp. 101-105. Description of an intact Middle Kingdom burial fully described, pp. 115-138. The mummy fell to dust, as is usual. Saint-Hilaire and other scholars attribute this to the drugs employed having been too potent. In two appendices pp. 282-287 and 288-290 Drs. de Verneuil and *Mémoires de l'Institut d'Égypte*, t. XIII.

Delattre discuss mummification in general, in relation to the specimens in the collection, but make no statements of great importance. The former account is mainly concerned with what the Author believes to be the significance of arranging the arms in different positions. On pp. 232-234 is described the mummy of an anencephalous monster described in No. 72 and 118.

89. Peet (T. Eric). The Cemeteries of Abydos, Part II, *Egypt Exploration Fund Memoir*, London 1914. 4to. pp. 91-94 and plates 5, 22 and 33.

Brief descriptions of Ptolemaic mummies discovered in vaulted tombs at Abydos.

90. Penicher (Louis). *Traité | des | Embaumements | selon les anciens | et les modernes. | Avec une description de quelques | compositions balsamiques et | odorantes. | Par Louis Penicher, | ancien | Garde des Marchands Apoticaires | de Paris | A Paris | Chez Berthelmy Girin, sur le quai | des Augustins du côté du Pont Saint | Michel, à la Prudence. | M DC XCIX. 16mo. 315 pages.*

The first two chapters deal with balm and spices, and Ch. iii with ancient embalming, Ch. iv with the materials. The rest of the book deals with modern methods.

The account of Egyptian embalming is based upon that of Herodotus and Diodorus, but contains shrewd observations and is pleasantly written. Anecdote of a ship haunted by two mummies which were on board (pp. 70 ff.). Description of different kinds of mummies found by travellers.

91. Perrot (J. F. A.). *Essai sur les Momies*. Nîmes, 1844, 8vo. 132 pages.

This pamphlet is little more than a description of a mummy-case. There is a short prefatory section on mummies in general, but it contains nothing original. The case is a fine one of the type found in the second cache at Deir el-Bahri.

92. Petrie (Sir W. M. Flinders). *Medium*. London, 1892. 4to. pp. 16-18.

Discovery of parcels of separately embalmed viscera of Old Kingdom mummies.

93. — Deshasheh. *Egypt Exploration Fund Memoir*, London, 1898, p. 15. 4to.

Description of a mummy of Vth Dyn. Now in the Cairo Museum.

94. — Meydum and Memphis III. *Egyptian Research Account Memoir*, London, 1910, 4to. pp. 4, 15-16, plate XI.

Description of an Old Kingdom mummy.

95. — Qurneh. *Egyptian Research Account Memoir*, London, 1909, 4to. pp. 7, 8 and 10, pls. 23-24.

Description of a mummy of XVIIth Dyn. now in the Royal Scottish Museum, Edinburgh. Pl. LII, photographs of mummies of XXVth Dyn.

96. — Hawara, Biahmu and Arsinoe. London, 1889, 4to.

Ch. iii, pp. 14-21 gives a full and interesting account of the decoration and burial of mummies of the Roman period.

97. Pettigrew (Thomas Joseph⁽¹⁾). *A History of Egyptian Mummies, and an Account of the Worship and Embalming of the Sacred Animals by the Egyptians, with Remarks on the Funeral Ceremonies*

⁽¹⁾ Born in London 1791. Began to study anatomy at age of 12. Elected Member of the Medical Society in 1808. M. R. C. S. 1812, F. R. C. S. 1843. Helped to found and establish several literary and scientific societies. Secretary to the Royal Humane Society 1813. Surgeon to the Duke of Kent, and vaccinated Queen Victoria. Acted as Surgeon to various institutions, and was first Professor of Anatomy at Charing Cross Hospital. Resigned in 1835 and took up practice in Saville Row. F. R. S. 1827. One of the founders of the British Archaeological Association, whose first meetings were held in his house. In 1854 on the death of his wife, he gave up medical practice and devoted his whole time to archaeology. Prolific writer on medical and archaeological subjects and was later Librarian to the Duke of Sussex. Died in London 1865. (See Portrait).

of Different Nations and Observations on the Mummies of the Canary Islands, of the ancient Peruvians, Burman Priests, etc. London, 1834, 264 pages and 13 plates. 4to.

One of the most valuable works on the subject extant. It is a monument of exact observation, and considering the state of archæological knowledge at the time, is in every way admirable.

98. — Unrolling an Egyptian Mummy. *Morning Chronicle*, London, May 30th, 1836, Page 5, Col. 5.

Account of the unrolling of a Saite mummy at the Royal Institution on May 27th 1836. The mummy is that of Ari, then in the collection of Lee. The triple case in which it was found has been published by SHARPE, *The Triple Mummy-case of Aroeri-Ao*, London 1858. The mummy was brought to England by Salt. The cases passed into the Amherst Collection, and were sold by auction in London in June 1921 (Sale Catalogue, Lot. 352).

99. — Account of the Examination of the Mummy of Pet-Maut-Ioh-Mes brought from Egypt by the late John Gosset Esq., and deposited in the Museum in the Island of Jersey. *Archæologia*, vol. 27, London (1837), pp. 262 273, and two plates. 4to.

A valuable account of a mummy which from its technique is evidently of XXIst Dyn. date, and is peculiar in that the brain was removed through the *foramen lacerum*, which had been artificially enlarged.

100. — Observations on the practice of Embalming amongst the Ancient Egyptians, illustrated by the unrolling of a Mummy from Thebes presented to the Association by Thomas Aeden Esq., F. S. A., for the Worcester Congress. *Journal of the British Archæological Association*, vol. 4, London (1849), pp. 337-348. 8vo.

A general account of mummification based upon his own previous observations and the usual authorities. The description of the mummy (p. 341) shows that it was embalmed according to the methods of the

XXIst Dyn. There was a large mass of black hair cut from the head and placed in a linen packet on the abdomen. Viscera returned to the body. Lotus plant rolled amongst bandages. Artificial eyes.

101. — On the Deities of Amente as found on Egyptian Mummies. *Archæologia*, London, vol. 34 (1852), pp. 392-393. 4to.

A discussion of the wax genii commonly found with the viscera of mummies of XXIst Dyn. In a mummy unrolled at the United Services Museum on May 23rd 1851 the four figures were found with parcels of viscera, together with a wax figure of the *bennu*-bird. The packets were placed between the legs. The mummy is therefore probably of XXVIth Dyn. Wax *bennu*-birds have been recorded in other mummies since, chiefly of XXIst Dyn., and moulds for making these figures have been found.

102. Quibell (J. E.). The Ramesseum. *Egyptian Research Account Memoir*, London, 1898, 4to.

Description (very brief) of mummies of XXIInd Dyn. found in a tomb under the Ramesseum at Thebes.

103. Reisner (G. A.). A Family of Builders of the VIth Dynasty. *Museum of Fine Arts Bulletin*, vol. XI, Boston, U. S. A., November 1913, No. 66. 4to.

Good photograph of an Old Kingdom mummy *in situ* in its sarcophagus, fig. 9, p. 58.

104. Reutter (Louis). *De L'Embaumement avant et après Jésus-Christ*, Paris, 1912. 8vo. 172 pages.

Good general account of mummification, and very full and valuable analyses of materials of various periods.

105. Rhind (A. Henry). *Thebes its Tombs and their Tenants*. London, 1862. 8vo.

Ch. iv. Description of the discovery of a number of Ptolemaic mummies

(1st Cent. B. C.) in tomb at Thebes. Plate VII shows one of them with its amulets in position. (Now in the National Museum of Antiquities, Edinburgh). Ch. v, Description of a number of *caches* containing mummies of various periods, some evidently of the Middle Kingdom. The author believes these to be the bodies of poor persons. Discovery of four jars containing embalming materials (p. 126).

106. **Rouelle (Guillaume François⁽¹⁾).** Sur les Embaumements des Égyptiens. Premier Mémoire⁽²⁾. *Histoire de l'Académie Royale des Sciences, année MDCCCL*, Paris, 1754, pp. 123-150. 4to.

Epitome. Summarises current views on embalming. (a) The whole body was salted, then treated with balsamic, resinous and bituminous substances, which unite with the substance of the body to form a solid mass. (b) Careful observers say that the body was dried after salting, and the medicaments applied dry, as moisture promotes decomposition. The body was smoke-dried in the best cases, and boiled in pitch which consumed the flesh and fatty matter, this method being used only in inferior mummies.

Author believes the first opinion though at first sight probable is not correct, but upholds the second, which is borne out by the examination of mummies, which show clearly that desiccation was employed.

Quotation from and commentary on Herodotus (pp. 125-126). Natron a degreasing agent (127-129).

Criticism of the methods of embalming of Louis de Bils (1663) and Clauderus (p. 130).

He refers to various actual mummies and examines them in relation to

⁽¹⁾ Born 1703. Began life as an Apothecary, but was appointed Demonstrator of Chemistry at the Jardin du Roi at Paris in 1742. Lavoisier was one of his pupils. His most important work was that on the *salts* which forms the basis of the modern chemical acceptance of that term. He was a remarkable personality and a good lecturer, but was very absent-minded and eccentric. He died in 1770.

⁽²⁾ The above, although called premier mémoire, was the only work published on the subject. No second part ever appeared.

Herodotus (p. 135). Descriptions of mummies described by Maillet and De Jussieu (pp. 136-138).

Discusses Herodotus "second method" and declared that it is impossible by mere injection, and that incisions would be necessary to communicate with various organs (p. 139). Removal of the brain by the nose confirmed, and a case cited of a mummy from which the brain was removed through one of the orbits (p. 140).

Chemical discussion of embalming materials. Concludes that the black material is *bitumen Judaicum*, but recognises the presence of balsams, resin, fatty and oily substances (pp. 143-150).

107. **Rouyer (P. C.).** Notice sur les Embaumements des anciens Égyptiens. *Description de l'Égypte*, 2nd ed. Tome sixième — Antiquités — Mémoires. Paris 1822, 8vo. pp. 461-489.

Very good and observant account, following Herodotus and Diodorus. Author believes that desiccation is the principal agent for preservation, and that the purpose of anointing with resinous matter and filling the body with such substances, was not that these matters had of themselves any lasting power, but that they made the body immune from the attacks of necrophilous insects (p. 470). Desiccation was accomplished by means of chalk, natron and aromatic drugs. Natron being an absorbent, it penetrated the tissues and removed their lymphatic fluids and fats. Natron = carbonate of soda.

The fluid called by Herodotus palm-wine was really resin, and it was made to penetrate the tissues under heat, either of the sun or of fire, stoves probably being used. This the most essential process of embalming (p. 471). Climate of Egypt also very favourable to conservation.

The flank incision found in all the best mummies made not only to remove the viscera, but to enable the interior of the body to be more thoroughly cleaned (p. 478).

Description of mummies with incisions, treated either with bitumen, or salted and anointed with resin (p. 479). The latter olive-coloured, skin like tanned leather, face well preserved. When exposed, they

disintegrate and spread a bad smell (p. 480). Mummies treated with bitumen, black, tough and heavy. There are also various ways of treating mummies without incisions. The preservative materials evidently applied very hot. In some cases animal fats are deposited (p. 484). An account of bandaging follows (pp. 485 ff.).

Most of the above account is quoted verbatim by Gannal (See above, No. 40).

[The substance called 'bitumen' by the Author is really resin.]

108. Ruffer (Sir Marc Armand). Remarks on the Histology and Pathological Anatomy of Egyptian Mummies. *Cairo Scientific Journal*, vol. IV, Cairo, 1910. Reprinted in No. 117, pp. 11-17 8vo.

Cases of calculi, arterial disease, lesions of lungs and kidneys, including Bilharzia infection. The terminology is not exact. The XXIst Dyn. mummies are described as XXth Dyn. and the expression «predynastic mummies» is used.

109. — Note on the Presence of Bilharzia Hæmatobia in Egyptian Mummies of the XXth Dyn. *British Medical Journal*, January 1st, 1910, p. 16. Reprinted in No. 117, pp. 18-19.

110. — Arterial Lesion in Egyptian Mummies. *Journal of Pathology and Bacteriology*, vol. XV, 1911, pp. 453-462. Reprinted in No. 117, pp. 20-31 and pls. 3-5.

111. — An Eruption resembling Variola in an Egyptian Mummy of the XXth Dyn. (with Prof. A. R. Fergusson). *Journal of Pathology and Bacteriology*, vol. XV, 1911, pp. 1-3. Reprinted in No. 117, pp. 32-34 and plate 6.

112. — Histological Studies on Egyptian Mummies. *Mémoires présentés à l'Institut Égyptien*. Tome VI, fasc. 3, Cairo, March 1911. Reprinted in No. 117, pp. 49-92 and plates 13-22. 4to.

113. — Osseous Lesions in Egyptian Mummies. *Journal of Pathology and Bacteriology*, vol. XVI, 1912, pp. 439-465, and 9 plates. Reprinted in No. 117, pp. 93-126, and plates 23-31.

114. — Notes on Two Mummies dating from the Persian Occupation of Egypt. *Bulletin de la Société Archéologique d'Alexandrie*, No. 14, 1912, pp. 1-18, 7 plates. Reprinted in No. 117, pp. 127-138, plates 32-38. 8vo.

Description of two poorly embalmed mummies consolidated with sticks. One of them reveals a condition resembling facial paralysis, but it may be due to shrinkage.

115. — Pathological Lesions found in Coptic Bodies (400-500 A.D.). *Journal of Pathology and Bacteriology*, vol. XVIII, 1913, pp. 149-162 and 2 plates. Reprinted in No. 117, pp. 139-154 and plates 39-44.

Pathological conditions observed in Coptic bodies from Antinoë. Description of the methods of embalming and burial which are similar to those in Nubia (see No. 141). The brain and viscera are not removed, and the bodies are packed in common salt and dressed in garments.

116. — Pathological Notes on the Royal Mummies of the Cairo Museum. *Mitteilungen zur Geschichte der Medizin und der Naturwissenschaften*, vol. XIII, 1914, pp. 239-268. Reprinted in No. 117, pp. 166-178.

An enumeration of the evidence of disease, etc. in the royal mummies. All these cases had already been noted by Elliot Smith in 1912 in his Catalogue of the *Royal Mummies* (see No. 135).

117. — Studies in the Paleopathology of Egypt. Posthumously edited by Roy. L. Moodie, Ph. D. Chicago, The University Press, 1921, 8vo. 372 pages and 71 plates.

A collection of pathological papers, including all the above (Nos. 108-116) and various others which do not directly concern mummification.

118. Saint-Hilaire (Étienne Geoffroy). Un Monstre anencéphale. *Mémoires de l'Académie Royale des Sciences*, vol. IX, pp. 153 ff. 4to.

Description of the mummy of a monster (see No. 72).

119. Schmidt (W. A.). Chemische und biologische Untersuchungen von ägyptischen Mumienmaterial. *Zeitschrift für allgemeine Physiologie*, Band VII, Jena, 1907, pp. 369-392. 8vo.

This paper deals principally with the fatty acids, oleic, butyric, caproic, etc. found in mummy tissues. All attempts at obtaining reactions for haemoglobin failed. The higher fatty acids are probably the decomposition products of the proteids which are found in the tissues. Evidence that the salt immersion preceded the resin treatment.

A valuable contribution to the chemistry of mummification.

120. — Chemical and Biochemical Examination of Egyptian Mummies, including some observations on the Embalming Process of the Ancient Egyptians. *Cairo Scientific Journal*, vol. II, 1908, pp. 147-9. 8vo.

This paper is a synopsis of No. 119.

121. — Über Mumienfettsäuren. *Chemiker-Zeitung*, 1908, No. 65.

A further study of fats in mummy-material and their decomposition products.

122. Smith (G. Elliot). A Contribution to the Study of Mummification in Egypt, with special reference to the methods adopted during the time of the XXIst Dyn. for Moulding the Form of the Body. *Mémoires présentés à l'Institut Égyptien*, t. V, fasc. I, Cairo, 1906, 1-53 and plates 1-19 4to.

A work of fundamental importance in the study of mummification, detailing for the first time the special technique of the XXIst Dyn. and

correcting a number of popular errors respecting the treatment of the brain, viscera, etc.

123. — The Physical Characters of the Mummy of Thoutmosis IV. *Annales du Service des Antiquités*, Cairo, 1904, vol. IV, pp. 112-115. 8vo.

124. — Report on Four Mummies [of the XXIst Dyn]. *Annales du Service des Antiquités*, vol. V, 1904, pp. 13-17. 8vo.

Descriptions of four mummies from the second cache at Deir el-Bahari unrolled in the Cairo Museum on May 12th 1903.

125. — An Account of a Mummy of a Priestess of Amen supposed to be Ta-Usert-em Suten-Pa, with which is incorporated a detailed account of the wrappings by A. C. Mace and some Archaeological Notes by G. Daressy, *Annales du Service des Antiquités*, vol. VII, 1906. 55 pages, and 9 plates. 8vo.

A very full and accurate description of the technique of a mummy of XXIst Dyn. with a reconstruction of the various manipulations, and a very detailed account of the wrappings.

126. — Report on the Unrolling of the Mummies of the Kings Siptah, Seti II, Ramsès IV, Ramsès V and Ramsès VI. *Bulletin de l'Institut Égyptien*, 5th ser., t. I, pp. 45-67. Cairo, 1907. 8vo.

127. — Report on the Unwrapping of the Mummy of Menepkah. *Annales du Service des Antiquités*, vol. VIII, Cairo 1907, pp. 108-112. 8vo.

128. — Notes on Mummies. *Cairo Scientific Journal*, vol. II, Cairo 1908, No. 17, pp. 8vo.

Additions to the *Contribution* (No. 122) and a correction of a number of errors in connection with the age and technique of mummification. A further note on the same subject, *Ibid.*, p. 339 reprinted from *Nature*, August 3, 1908.

129. — The Antiquity of Mummification. *Cairo Scientific Journal*, vol. II, 1908, pp. 204-5. 8vo.
Reply to statements by Petrie regarding the arm found in the tomb of Zer and the Meidum Mummy.

130. — Pott'sche Krankheit an einer ägyptischen Mumie. (With Sir Armand Ruffer) *Zur historischen Biologie der Krankheitserreger*, Geisen, 1910, 3 Heft., pp. 3-16 and 2 plates. Reprinted in No. 117, pp. 3-10. 8vo.
A case of Pott's disease in a mummy of XXIst Dyn.

131. — History of Mummification in Egypt. *Proceedings of the Royal Philosophical Society of Glasgow*, 1908, 8 pages and 1 plate. 8vo.
Abstract of a lecture. Traces mummification back to the Old Kingdom.
Photograph of the head of the Meidum mummy.

132. — The Earliest Evidence of Attempts at Mummification in Egypt. *Report of the British Association* (Dundee Meeting), 1912, p. 162. 8vo.
A mummy of IInd or IIIrd Dyn. found at Saqqara by J. E. Quibell.

133. — Egyptian Mummies. *Journal of Egyptian Archaeology*, vol. I, 1914, pp. 189-196 and 2 pls. 4to.
A short survey of the whole subject with illustrations.

134. — Heart and Reins. *Journal of the Manchester Oriental Society*, vol. I, Manchester, 1911, pp. 189-196 and 2 plates. 8vo.
A discussion of the method of treating the viscera in mummies with special reference to the Hebrew 'Heart and Reins', followed by articles on the subject by six other contributors.

135. — The Royal Mummies. *Catalogue général du Musée du Caire*. Cairo, 1912, 4to. 118 pages and 103 plates.
The most important work on mummification yet produced. It contains

very detailed accounts of the mummies and traces the development and variation in technique from period to period. All the mummies found at Deir el-Bahri in 1881 and in the tomb of Amenophis II are included, also the mummy of Amenophis IV found in the tomb of Queen Teye.

136. — The Mummies of Yuaa and Thuiu. [In QUIBELL's *Tomb of Yuaa and Thuiu*,] Cairo 1908, pp. 68-73 and plates 57-60. 4to.
Full descriptions of the physical characters and technique of the two mummies.

137. — Report on the Mummy of Senebtisi. Appendix to MACE and WINLOCK, *The Tomb of Senebtisi*, New York, 1916. 4to.
Account of the mummy and the contents of the Canopic Jars. Middle Kingdom.

138. — Report on Two Mummies of the Middle Kingdom. In QUIBELL's *Excavations at Saqqara*, Cairo, 1908, pp. 13-14. 4to.

139. — A Note on the Mummies in the Tomb of Amenhotep II at Biban al-Molouk. *Bulletin de l'Institut Égyptien*, 5th ser. vol. I, Cairo, 1908, pp. 221-228. 8vo.
Fuller descriptions of the mummies and corrections of certain errors in Loret's account (see No. 59).

140. — On the Significance of the Geographical Distribution of the Practice of Mummification. A Study of the Migrations of Peoples and the Spread of certain Customs and Beliefs. *Memoirs of the Manchester Literary and Philosophical Society*, vol. LIX, 1915, No. 10. Reprinted and issued as a separate volume under the title : *The Migrations of Early Culture*, Manchester University Press, 1915, 8vo, 144 pages.

141. — The Archæological Survey of Nubia. Report on the Human Remains (with Dr. F. Wood-Jones). *Report for 1907-1908*, vol. II. Cairo, 1910, pp. 194-222. 4to.

A very full and valuable contribution to the technique of mummification, especially for later periods, based upon the extensive material obtained during the Survey.

142. — Egyptian Mummies. London, 1924 (with Warren R. Dawson). 190 pages and 72 illustrations. 4to.

A general history of the subject. Contains chapters on the Egyptian and Classical texts relating to embalming, the Funeral Ceremonies the technique under the Old and Middle Kingdoms, under the New Kingdom, the XXIst Dyn. and the period of decadence. Also mummification in relation to medicine and pathology, and a description of coffins, amulets, etc.

143. Sobhy (George P. G.). Description d'un crâne trouvé dans une tombe à Tell el-Amarna. *Bulletin de l'Institut français d'Archéologie orientale*, vol. XIV, Cairo, 1918, pp. 64-67 and one plate. 4to.

Description of the skull of a female mummy with the integuments (afterwards removed) showing clear evidence of artificial deformation. The eye-sockets seem to be filled with linen and resin packing⁽¹⁾.

144. Spiegelberg (Wilhelm). Ein Bestattungsvertrag aus der Zeit des Ptolemaios Philadelphos. *Zeitschrift für ägyptische Sprache*, Bd. 54, Leipzig, 1918, pp. 111-114.

Translation and commentary on a demotic papyrus relating to the embalming of a mummy.

⁽¹⁾ I have since ascertained that this mummy was not found at Amarna, but in a Coptic burial ground at Medall, near Fachre. The excavation of this site was described by Dr. L. Gatineau in *La Semaine Dentaire*, 22nd January 1922.

145. Stahr (Hermann). Die Rassenfrage im antiken Ägypten. Leipzig 1907, 4to.

This memoir does not deal directly with mummification, but the heads of mummies are used as part of the material, and these are described on pp. 4-16, and plates 1 and 2.

146. Storr (Gottlieb Conrad Christian). *Prodromus Methodi Mammalium*. (followed by very long sub-titles) Tübingen, 1780, pp. 23-24. 4to. Description of a mummy at Stuttgart with special reference to its teeth.

147. Sudhoff (Karl). Ägyptische Mumienmacher-Instrumente. *Archiv für Geschichte der Medizin*, vol. V, Leipzig, 1912, pp. 161-171 and 2 plates. 8vo.

A good account, with excellent illustrations, of the instruments used for the extraction of the brain and for other purposes in mummification.

148. Virchow (Rudolf). Die Ägyptischen Königsmumien in Museum zu Bulaq. *Sitzungsberichte der Königl. Akademie der Wissenschaften*, vol. XXXIV, Berlin, 1888, pp. 767 ff. 4to.

Estimates of the age, racial affinities, etc. of the royal mummies found in 1881.

149. Warren (John C.). Description of an Egyptian Mummy presented to the Massachusetts General Hospital, with an account of the Operation of Embalming in Ancient and Modern Times. By John C. Warren, M. D., Professor of Anatomy and Surgery in Harvard University. *Boston Journal of Philosophy and Arts*, 1820, 34 pages. 8vo.

Mummy obtained at Thebes for Van Lennep, a merchant at Smyrna. Long discussion on embalming generally, with special reference to Herodotus, etc. Two plates of the mummy-case are given, which show that it is Ptolemaic, a fact that is confirmed by the word *εὐψυχη*.

written on one of the bandages. Very scanty particulars of the mummy itself, as only the head was uncovered. It was covered by 25 layers of bandage, and the eyes were filled with linen.

150. Wiedemann (Alfred). *Herodot's Zweites Buch*. Leipzig 1890, pp. 345, 364. 8vo.

Commentary on Herodotus' account of mummification with many useful references.

151. Weigall (A. E. P.). *The Mummy of Akhenaton*. *Journal of Egyptian Archaeology*, vol. 8, London, 1922, pp. 193-199. 4to.

A vindication of the identity of the mummy from various criticisms.

152. Winlock (H. E.). *The Tombs of the Kings of the Seventeenth Dynasty at Thebes*. *Journal of Egyptian Archaeology*, vol. X, London, 1924, 217 ff. 4to.

An important historical article in which several interesting references are made to the royal mummies of XVIIth Dyn. found by Mariette and others, pp. 231, 247-258, 261, 275, 276. Queen Tetisheri identified with «The Unknown Woman B» of ELLIOT SMITH's *Royal Mummies* (No. 135), p. 248. Remarks on the mummy and death-wounds of Sekenenre, pp. 250 and 276, note 1.

153. — The Egyptian Expedition 1916-1919. *Metropolitan Museum Bulletin*, New York, Part II, July 1920. 8vo.

Discovery of a coffin containing linen impregnated with resin and other embalming materials. Other similar deposits found in the vicinity, p. 12.

154. — The Egyptian Expedition, 1918-1920. *Ibid.*, December 1920.

Discovery of an intact Middle Kingdom mummy, covered with folded sheets of linen, pp. 3-32, and figs. 27-28. Plundered mummy of a youthful prince named Amenemhet (temp. Amenophis Ist) rewrapped in XXIInd Dyn., pp. 9-10.

155. — The Egyptian Expedition, 1920-1921. *Ibid.*, 1921.

Discovery of an intact mummy of XXIInd Dyn. and two XIth Dyn. royal mummies (princesses) at Deir el-Bahari, pp. 29-53.

156. — The Egyptian Expedition 1921-1922. *Ibid.*, 1922.

Discovery of embalmer's board and dump of materials of XIth Dyn., p. 34 and figs. 33-34.

157. — The Egyptian Expedition, 1922-1923. *Ibid.*, 1923.

Discovery of two mummies of dancing girls, tattooed, XIth Dyn., pp. 26-28.

158. — The Egyptian Expedition 1923-1924. *Ibid.*, 1924.

Discovery of several mummies of XXIst-XXIInd Dyn. and several dumps of embalmers materials, of XXIIIrd Dyn., pp. 39-33 and 30.

159. — The Egyptian Expedition 1924-1925. *Ibid.*, 1925.

Brief account with illustrations of the unrolling of some of the mummies discovered the previous year (pp. 88 ff.).

160. — Wood-Jones (F.). *The Archæological Survey of Nubia; Report on the Human Remains* (with G. Elliot Smith). See No. 141.

ADDENDA.

31 a. Dawson (Warren R.). *Articles 'Embalming' and 'Mummy' Encyclo-pædia Britannica*, 14th ed., 1929. 4to.

31 b. — References to Mummification by Greek and Latin Authors.
Egyptus, vol. IX, Milan, 1928, pp. 106-112. 8vo.

Twenty-three extracts from Greek and Latin writers referring to mummification.

31 c. — Magician and Leech. London, 1929. 8vo.

Chapter III deals with the technique of mummification, and its significance in relation to medicine and anatomy.

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